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SCHEDULE OF MEETINGS

7-12 January **Expert Committee on Drugs Liable to Produce Addiction, third session, Geneva**

Included on the agenda of this session were : morphine derivatives, synthetic substances (synthetic derivatives of the morphinan, pethidine, and methadone types and dithienylbutylamines), *Cannabis sativa* L., barbiturates, and amphetamine and its derivatives. If approved by the Executive Board, the committee's report will be published in the *World Health Organization : Technical Report Series*.

7-19 January **Executive Board, Standing Committee on Administration and Finance, Geneva**

21 January-9 February **Executive Board, ninth session, Geneva**

The Executive Board and its Standing Committee on Administration and Finance, in addition to discussing the programme and budget for 1953, are dealing with two special questions : a proposal that the World Health Assembly be held biennially instead of annually, and an examination of the WHO publications programme. The report on the ninth session will be published in number 40 of the *Official Records of the World Health Organization*. A brief account will appear in a forthcoming number of the *Chronicle*.

11-12 February **UN Working Party on Insecticides, Geneva**

In accordance with a resolution of the Economic and Social Council of the United Nations, a working party composed of representatives of governments is meeting to study the world position with regard to the supply and requirements of DDT and BHC and, if a significant shortage is revealed, to recommend means of alleviating this shortage. The United Nations, in collaboration with WHO and FAO, will place before the working party such basic statistical data as are available.

MEDICAL TEACHING MISSIONS

Origin and Development

Medical teaching missions are among the newest types of medical educational projects, yet for WHO they are among the oldest in which the Organization has engaged. The first two projects of this nature were organized by UNRRA and by the Unitarian Service Committee (USC) of the USA in order to re-establish contact between American scientists and those of some of the European countries occupied by the Germans during the second World War. Medical teaching missions to Czechoslovakia and to Poland resulted, in 1946. Before UNRRA withdrew from the international scene, it recommended to the Interim Commission of the World Health Organization that WHO carry on such activities, which had proved very successful. In following up this recommendation, a medical teaching mission was sent to Austria in 1947, under the joint sponsorship of the WHO Interim Commission and the USC.[1] At the instigation of WHO, the staffs of the missions became more international in character ; thus, two Swiss scientists joined the eight American professors who visited Austria. The following year, when similar missions were sent, under joint WHO/USC auspices, to Finland, the Philippines, and Poland, scientists from Argentina, Costa Rica, Czechoslovakia, Sweden, Switzerland, the United Kingdom, and the USA participated.

Between 1948 and 1951, the USC, acting alone, sponsored medical teaching missions to Colombia, Germany, Greece, Italy, and Japan. In September and October 1951, a joint WHO/USC medical teaching mission was sent to Israel and Iran. Similar missions, sponsored solely by WHO, are to visit Burma and Ceylon in February and March 1952.

Organization and Activities

Medical teaching missions, varying in size from eight to fourteen members, consist of scientists of international reputation who occupy prominent teaching positions in their home countries. An ad hoc " travelling faculty " is formed for the purpose of informal exchange of ideas and information between visiting and local scientists. Postgraduate training courses are, as a rule, also conducted by the visiting professors, in close co-operation with the faculties of the host medical schools. The length of the visit to each school does not exceed three to four weeks, the duration of a stay in any one country depending on the number of medical schools which it has, but never exceeding two months.

[1] *Chron. World Hlth Org.* 1947, 1, 113

Besides the professional teaching staff, a skeleton administrative group, consisting usually of an administrator-in-charge and one or two secretaries, is included in the mission.

Medical teaching missions present numerous organizational problems and require very careful co-ordination and planning. Since the project is of relatively short duration and involves a considerable expenditure of funds,

FIG. 1. MEDICAL TEACHING MISSIONS—I

Ward rounds at the Rothschild Hadassah University Hospital, Jerusalem. Left to right: Dr. E. Joseph, head of the Surgery Department at the hospital; Dr. C. Semb, member of the teaching mission; and two staff physicians

it is essential to make the best possible use of time. This requires meticulous preparation on the part of the hosts so that all demonstrations planned by the visitors may be carried out according to a schedule : suitable patients have to be assembled for certain surgical operations, equipment and instruments have to be provided, interested specialists from all parts of the country have to be brought together at the place where the demonstrations are to take place, and other arrangements have to be made. In some instances local personnel must receive preliminary training, through fellowships, in order to be able to benefit fully from the mission's activities. An equal amount of planning is needed by the visiting scientists, who have to prepare their lectures and teaching materials—e.g., lantern-slides, special items of equipment, books, reprints, etc. It generally takes from eight months to a year to prepare a teaching mission.

Formal teaching, like lectures, is kept to a minimum. A mission's activities consist largely of informal exchanges of views in the course of ward rounds, small group discussions, seminars, and other meetings. Visiting and host surgeons perform operations together; those concerned with the basic sciences spend time in laboratories discussing problems of mutual interest and demonstrating specific techniques; and, most important

FIG. 2. MEDICAL TEACHING MISSIONS—II

Some of the members of the mission to Israel inspect a bedouin camp

of all, specialists, visiting and local, conduct round-table discussions on timely topics of particular interest. Such round-table conferences are among the most valuable features of medical teaching missions because they take advantage of the presence of a number of highly qualified experts. Subjects at these conferences vary widely : in one instance, the subject was " Pain ", with physiologists, pharmacologists, anaesthesiologists, internists, and surgeons contributing; in other sessions, topics such as " Pre- and Post-operative Care " and " ACTH " were discussed.

In some countries there are serious language difficulties, particularly with regard to the formal lectures, which may require the interpretation of highly technical texts. In Israel there was no need for such interpretation since almost everyone had an adequate working knowledge of English; but, in Iran, lectures given in English had to be translated into Persian. In such cases prepared texts must be sent to the host country ahead of time, which adds one more item to the long list of problems of the preparatory stage.

Mission to Israel

Personnel and organization

The medical teaching mission to Israel was composed of the following :

Physiology, pharmacology	Dr. G. K. Moe, Professor of Physiology, State University of New York, Medical Center at Syracuse University, Syracuse, N.Y.
Biochemistry	Dr. H. Theorell, Professor of Biochemistry, Medical Nobel Institute, Stockholm
Pathology	Dr. P. Klemperer, Clinical Professor of Pathology, Columbia University, New York, N.Y.
Internal medicine	Dr. E. Warburg, Professor of Medicine, University of Copenhagen, Copenhagen
Paediatrics	Dr. S. Z. Levine, Professor of Paediatrics, Cornell University, New York, N.Y.
General and thoracic surgery	Dr. C. Semb, Professor of Surgery, University of Oslo, Oslo
Neurosurgery	Dr. L. M. Davidoff, Clinical Professor of Neurosurgery, New York University, New York, N.Y.
Orthopaedic surgery	Dr. H. Osmond-Clarke, Honorary Surgeon and Assistant Director, the Orthopaedic and Accident Hospital, London
Radiology	Dr. L. G. Rigler, Professor of Radiology, University of Minnesota, Minneapolis, Minn.
Anaesthesiology	Dr. L. E. Morris, Assistant Professor of Anaesthesiology, State University of Iowa, Iowa City, Iowa
Adviser on medical education	Dr. E. Grzegorzewski, Professor of Public Health; Director, Division of Education and Training Services, WHO
Public-health administration	Dr. K. Evang, Surgeon-General of Public Health, Oslo
Epidemiology	Dr. J. E. Gordon, Professor of Preventive Medicine, Harvard University, Cambridge, Mass.
Environmental sanitation	Mr. R. G. Tyler, Professor of Sanitary Engineering, University of Washington, Seattle, Wash.

This teaching team, headed by Dr. Davidoff and Dr. Evang as Chairman and Vice-Chairman, respectively, although its members worked in close co-operation, was subdivided into three smaller groups according to the three main functions which the mission had to fulfil : (1) a preclinical and clinical group, consisting of the first nine members listed above; (2) an advisory group on medical education, led by Professor Grzegorzewski and composed of Professors Levine, Warburg, and Gordon; and (3) a public-health group, led by Dr. Evang and consisting of the last three members listed above. The first group was more or less concerned with purely academic activities and gave postgraduate courses in nine subjects. The advisory group on medical education conducted a week's conference, attended by all those in Israeli circles who were interested in problems of education, including undergraduate and postgraduate education and the

training of auxiliary medical personnel. The public-health group spent two full months in Israel and, besides engaging in teaching, acted in an advisory capacity to the Israeli Government on numerous public-health problems.

Activities and accomplishments

The average working day of the preclinical and clinical group of professors started at 8 a.m., when all of them met their opposite numbers in their hospitals and laboratories. The morning was spent in making ward rounds or in performing operations together, or in discussing selected cases and pertinent problems. In the laboratory, new investigative techniques were discussed and demonstrated. Particularly noteworthy in this connexion was a ten-day training course for all biochemists of the country, in which the staff of the Weizmann Institute for Scientific Research and the professors of the University of Jerusalem participated, as well as Professor Theorell —the biochemist of the teaching mission. Since each of the nine members of the preclinical and clinical group worked in different places and, at all times, had at least 12 to 15 local physicians working with them, the total number of participants in the morning's instruction, discussions, or demonstrations was never less than 100.

Afternoons were devoted to small group discussions on topics which had arisen during ward rounds or to visiting health installations of various kinds. Formal lectures were given in the evenings from 8 to 10. Since no lecture hall was large enough to accommodate the audiences, lectures were given in two different places, the subjects being selected, as far as possible, so as not to compete with one another; for instance, lectures on very technical surgical subjects were given in one hall while medical or paediatric topics were presented in the other. Even so, the lecture halls were almost always filled to capacity.

A few figures may illustrate the work of the preclinical and clinical group of visiting professors :

Ward rounds	115
Lectures	50
Conferences	145
Surgical operations	35
Medical films shown	9
Other activities	37

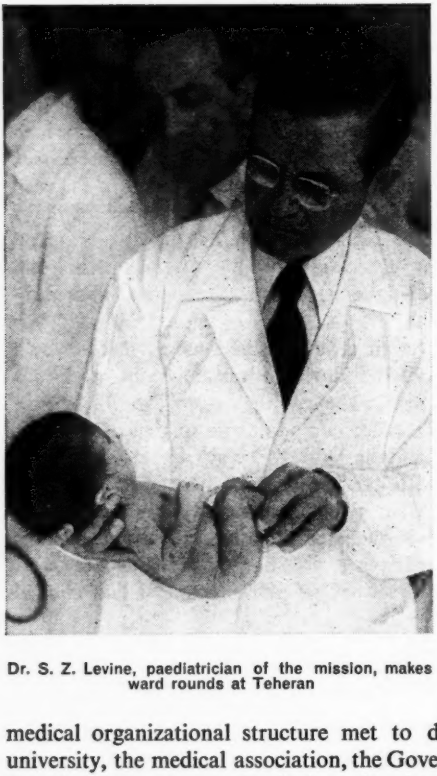
The public-health group spent the first four weeks of its visit to Israel in conducting a survey of the entire health situation of the country, in the course of which a number of problems were selected to be worked on during the second month of its stay in the country. Israeli health authorities had ample opportunity to discuss all their major health problems with the

visiting experts and to obtain the advice and recommendations which they sought.

The work of the public-health group does not lend itself to being expressed in terms of figures. This group too, however, gave a series of lectures and held many seminars, in addition to engaging in numerous other activities, all of which are recorded in a 160-page report. The topics discussed in the seminars, which were extremely well attended, give some idea of the range of problems which this group handled :

1. Immunization; specific prevention of communicable diseases
2. Medical activities in securing adequate nutrition
3. Rural sanitation and communicable diseases
4. Health problems relating to reproduction
5. Enteric infections
6. Epidemiology of accidents
7. Health problems relating to immigrants and moving populations
8. The scientific method applied to health practice

FIG. 3. MEDICAL TEACHING MISSIONS—III



Dr. S. Z. Levine, paediatrician of the mission, makes ward rounds at Teheran

The week's conference on medical education was of particular interest to the Israeli medical profession. For the first time, all component parts of the complicated medical organizational structure met to devise a common course : the university, the medical association, the Government, and the Kupat Cholim (health insurance organization) explored all the existing problems, with the assistance of the visiting professors. It is believed that, in the long run, these conferences may show some of the most lasting results of the visit of the medical teaching mission.

Considering all the visiting team's activities and the attendance at lectures given in Haifa, Tel Aviv, and Jerusalem, hundreds of Israeli physicians benefited from the mission's work. There was no segment of Israeli

medical life or public-health effort on which the visiting group did not have an opportunity to exert its stimulating influence.

Mission to Iran

The medical teaching mission which went from Israel to Iran last October was smaller than the group which had visited the former country. There was no public-health group, and the specialities of pathology and orthopaedic surgery were not included in the programme. The advisory function on medical education was reserved for a later date : in April 1952, two experts—Professors C. Heymans, of Ghent, and P. Combemale, of Lille—will join Professor Grzegorzewski in discussing with the Iranian Government and academic circles the medical educational problems that exist particularly in the four schools outside Teheran, namely, at Meshed, Tabriz, Shiraz, and Ispahan.

The activities of the group which went to Teheran last October were very similar to those described in connexion with the mission to Israel. The faculty at Teheran prepared a number of fine seminars which gave the visiting experts a chance to learn a great deal about medical and health problems specific to Iran and other countries in the Middle East.

Evaluation of Teaching Missions

The experience gained with medical teaching missions over the past five years has shown that this is an educational technique sui generis. It cannot in any way substitute or supplant other time-honoured techniques such as training through fellowships, visiting or exchange professorships, travel grants, etc. On the other hand, it can accomplish a number of objectives that none of these techniques can easily achieve. The stimulative impact of the visit of such sizeable groups of outstanding experts as those that compose medical teaching missions is extremely valuable. The diverse activities of a teaching mission, if carefully integrated and selectively applied according to a country's needs, extend into virtually all aspects of medical and health work—into teaching, research, and public-health administration.

The word " teaching " is a rather misleading term as applied to this type of project since both visiting and local scientists teach and learn at the same time. There is truly an *exchange* of scientific information and ideas in the course of a teaching mission. In addition, the personal contacts established between visiting and local scientists, and between the schools they represent, last for many years, being maintained by correspondence, exchange of reprints and other publications, and visits of faculty members.

Medical teaching missions thereby establish permanent channels of scientific communication.

One more aspect of the medical teaching missions deserves mention. In all instances the general public of the countries visited has taken the greatest interest in the activities of the members of the mission. Through the daily press and the radio, the public is kept informed about the work being carried on jointly by their own scientists and by their guests. An

FIG. 4. MEDICAL TEACHING MISSIONS—IV

Dr. E. Warburg examines a curious patient during a demonstration at Teheran

inestimable amount of goodwill and mutual understanding is generated by the efforts of all those who either go to foreign lands, or who receive visitors open-mindedly, in order to improve health standards. Scientists from Denmark, Norway, Sweden, the United Kingdom, and the USA made up the team which went to Israel and Iran. This year scientists from Belgium, Canada, Denmark, Holland, Sweden, the United Kingdom, the USA, and Yugoslavia will visit their colleagues in Ceylon and Burma.

In spite of the magnitude of the effort and the considerable expenditure of funds involved, medical teaching missions have become very popular with governmental and academic circles in many countries, as the impressive number of such projects and continuing requests for them seem to indicate.

WHO REGIONAL COMMITTEE FOR THE AMERICAS

Fifth Session

The Directing Council of the Pan American Sanitary Organization (PASO), which also acts as WHO Regional Committee for the Americas, held its fifth session from 24 September to 3 October 1951 at Washington, D.C. Present were representatives of 24 countries—the 21 American republics and France, the Netherlands, and the United Kingdom—as well as observers from Canada and various intergovernmental and non-governmental organizations. Dr. N. Romero y Ortega, Director-General of Health of the Ministry of Public Health and Social Security of Chile, was Chairman; and Dr. P. H. Peña, Minister of Public Health and Social Welfare of Paraguay, and Dr. L. Somarriba, Minister of Public Health of Nicaragua, were Vice-Chairmen. Dr. M. E. Bustamante, Secretary-General of the Pan American Sanitary Bureau (PASB), served as Secretary, ex officio.

Programme

Of principal interest at the meeting was the adoption of public-health programmes to be carried out by the Pan American Sanitary Bureau, as WHO Regional Office for the Americas, in 1952, in co-operation with the health authorities of the countries of the Americas. Emphasis will be placed on maternal and child health projects. In this connexion, the Directing Council instructed the Director of the PASB, Dr. F. L. Soper, to take measures to strengthen and develop further the WHO programmes for the benefit of children, now being carried out in co-operation with FAO, UNICEF, and other agencies of the United Nations. The Council also asked the Director to try to bring about closer co-operation and to facilitate negotiations between technical assistance bodies and technical institutions so that child-health programmes may be developed more effectively throughout the region.

The Bureau's public-health nursing programme will be continued through 1952 and will include the conducting of nursing workshops—intensive training seminars for public-health nurses. Work in nutrition, public-health administration, sanitary engineering, and veterinary public health will be continued or expanded. Considerable attention will be given to the control of venereal diseases, this to entail the operation of serological laboratories and training centres and the maintenance of prophylaxis stations. Steps will be taken to further the Bureau's policy of combining into a single, broad, insect-control programme the fight against various, individual, insect-borne diseases—malaria, yellow fever, typhus, Chagas disease, and others.

Seventy-six public-health field programmes are now being conducted by, or are receiving technical orientation from, the PASB; 42 other programmes are in various stages of negotiation.

Emphasis was laid at the meeting on long-range planning as one of the most important factors in maintaining essential continuity of operations in the public-health projects being carried out in the Americas. The Council requested the Director to evaluate the needs of the various member countries of the region, indicating the priority for each need, and to present to a future meeting of the Council an overall, long-range programme for the Organization, based on his findings. Insect-eradication projects were mentioned as deserving the highest priority.

Budget and Finance

The 1952 budget adopted at the meeting amounted to approximately $1,940,000. This is to finance the operation of the field programmes, of the Washington headquarters, and of field offices in Guatemala City; Lima, Peru; Rio de Janeiro, Brazil; El Paso, Texas; and Buenos Aires, Argentina. Funds for public-health programmes in the Americas in 1952 will be considerably larger than the amount budgeted, however, since WHO's allocation to the Bureau for the year will be about $935,000. In addition, funds will be made available for specific projects through technical assistance programmes, UNICEF, and other international organizations.

In its capacity as Regional Committee of WHO, the PASO Directing Council reviewed the Regional Director's proposed 1953 WHO budget, amounting to $1,061,000, which the Council " found to provide for an adequate, well-balanced programme ", and which is to be submitted to the Director-General for action at WHO Executive Board meetings and at the Fifth World Health Assembly.

In connexion with long-range planning, the Council desired that corresponding preliminary budgetary planning be made at least two years in advance. Consideration must be given in such planning to the ability of the governments to finance budgets as well as to the public-health work planned or being conducted by Member Governments and other organizations.

The Council adopted a system for assessing the three European States —France, the Netherlands, and the United Kingdom—that have an interest in the non-self-governing territories in the Americas and granted representatives of those States the right to vote in the Council meetings on budgetary matters of the PASO, " provided this vote be contingent upon an equitable contribution being made by them to the PASO budget ".

Insecticides Supply Problem

In view of the relatively limited supply of DDT and other insecticides containing chlorine, the Council requested the Bureau urgently to invite all member countries to report, before 31 December 1951, their quota requirements up to 30 June 1952. Such requests must be accompanied by a deposit of the funds to meet their cost. Member Governments will also be requested by the Bureau to indicate, before 1 March 1952, their estimated insecticide requirements for the period from 1 July 1952 to 30 June 1953.

The Council extended a vote of thanks to the Government of the USA, which last July established a high priority for export permits for DDT and its formulations destined for public-health programmes, stipulating, however, that orders must be placed only during the last half of each calendar year, when the seasonal demands for insecticides in the USA are at a minimum.[1]

International Sanitary Regulations

Action was taken for revision of the Pan American Sanitary Code—which was signed in Havana, Cuba, in 1924 by the 21 American republics—so that it might conform with the International Sanitary Regulations adopted by the Fourth World Health Assembly in May 1951.[2] After considerable discussion, the Council recommended to the signatories of the Pan American Sanitary Code the addition thereto of a protocol providing for abrogation of certain articles, " many of which are now inadequate and therefore need suitable revision... ". It further recommended that all the American republics take appropriate measures for applying the new International Sanitary Regulations, which, it was stated, are " vested with the full and mandatory force of a convention, voiding previous conventions and treaties, and serving, in fact, as a revision of all those that are in any manner contrary to the new rules thus established ".

In compliance with a request made to WHO regional committees by the Fourth World Health Assembly, the Council resolved to bring to the attention of the health authorities of the Americas WHO's recommendation urging all governments to improve sanitary and environmental conditions to prevent the spread of quarantinable diseases, especially in the area of ports and airports.[3]

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[1] *Chron. World Hlth Org.* 1951, 5, 277
[2] *Chron. World Hlth Org.* 1951, 5, 179
[3] *Chron. World Hlth Org.* 1951, 5, 181, 182

Inter-American Congress of Public Health

In preparation for the First Inter-American Congress of Public Health, to be held under the joint sponsorship of the Government of Cuba and PASB from 27 September through 1 October 1952, in Havana, Cuba, the Council selected two topics for discussion at the Congress : " Organization and integration of public-health services by (*a*) recognition of public health as a career, and (*b*) full-time employment and adequate remuneration in public-health work ", and " Progress achieved in the treatment and control of disease ". Among the official items on the Congress agenda is rural sanitation. Experts are to be invited to develop the topics selected by the Directing Council.

The Congress will also celebrate the Fiftieth Anniversary of the founding of PASB and, at the same time, pay hommage to Dr. C. J. Finlay, the Cuban scientist who made important contributions leading to the discovery of the yellow-fever vector.

The Directing Council will hold its next meeting in Havana, Cuba, from 19 to 24 September 1952, immediately before the opening of the First Inter-American Congress of Public Health.

BEJEL/SYPHILIS-CONTROL PROGRAMME IN IRAQ

Several noteworthy developments have been reported in the bejel-control project which has been in operation in Iraq for a little over a year.[1] In July 1951, postgraduate training courses were given to international and national team members and to a WHO fellowship candidate from Pakistan. In August, a new venereal-disease dispensary was opened. October saw the launching of a mass treatment programme, the object of which is to treat between 40,000 and 50,000 cases annually during the next three years. In November, the appointment of an x-ray technician was announced. Mr. M. A. A. Halim, x-ray technician from the Institute of Radiology, Kasr el Aini Hospital, Cairo, joined the project to train other x-ray technicians and to take x-ray pictures of the heart and bones of bejel patients. It is hoped by means of these x-rays to further knowledge of bejel by investigating whether or not there are cardiovascular and osteal changes in advanced cases of bejel similar to those found in syphilis.

The Iraq bejel/syphilis programme is a joint undertaking of UNICEF, the Ministry of Social Affairs of Iraq, and WHO. It combines a practical field programme against bejel with scientific research to determine better control measures.

[1] *Chron. World Hlth Org.* 1950, 4, 354 ; 1951, 5, 119

FIG. 5. BEJEL/SYPHILIS PROGRAMME

Woman and child suffering from syphilis or bejel infection. Note the child's forehead

Review of WHO Publications

RICKETTSIOSES IN EQUATORIAL AFRICA

Rickettsial diseases in Africa have been the subject of considerable study in recent years. In 1950, a joint OIHP/WHO study-group discussed various aspects of these diseases and reviewed the results of research on them; [1] in the same year, a study was also undertaken by Dr. M. J. Freyche and Mr. Z. Deutschman, of WHO, and was published in the *Epidemiological and Vital Statistics Report*.[2] A recent contribution to knowledge on this subject has been made by Dr. Paul Giroud, Chief of the Rickettsioses Service at the Institut Pasteur in Paris, whose personal observations on

[1] The report of this study-group appeared as *World Hlth Org. techn. Rep. Ser.* 1950, 23 ; see also *Chron. World Hlth Org.* 1950, 4, 291.

[2] *Epidem. vital Statist. Rep.* 1950, 3, 161 ; see also *Chron. World Hlth Org.* 1951, 5, 20.

rickettsioses in Equatorial Africa appear in the latest number of the *Bulletin of the World Health Organization.*[3]

After describing the technique of the two diagnostic tests which he utilized in his investigations—the agglutination and skin hypersensitivity tests—Dr. Giroud discusses the various forms of exanthematic fever which he found to be prevalent in Equatorial Africa : epidemic typhus in Ruanda and in the Cameroons-Ubangi area; rickettsioses of the " boutonneuse " and murine types in the Middle Congo, where others, caused perhaps by *Rickettsia orientalis*, also exist; benign toxoplasmoses, clinically similar to boutonneuse fever with eschar; and Q fever, prevalent especially among cattle-raising tribes. Aborigines in Ubangi-Shari, who hunt rodents, were found to be particularly susceptible to the boutonneuse and murine antigens. Q-fever antigen was discovered in cow's milk, in dog and cattle ticks (*Rhipicephalus sanguineus*, *Haemaphysalis leachi*, *Amblyomma variegatum*), and in lice (*Pediculus corporis*). Inhabitants of the Ruanda-Urundi territory gave both positive cutaneous reactions and positive complement-fixation reactions to the *R. orientalis* antigen.

[3] *Bull. World Hlth Org.* 1951, 4, 535 (Article in French with summary in English and French)

THIRD INTERNATIONAL SULFARSPHENAMINE STANDARD

M. G. Davies, A. A. Miles, and W. L. M. Perry, of the National Institute for Medical Research, London, report, in the *Bulletin of the World Health Organization,*[1] on biological assays of a batch of sulfarsphenamine for the proposed third international standard. These assays, which were carried out by six laboratories in five countries (Denmark, France, the Netherlands, the United Kingdom, and the USA), were all subjected to probit analysis, and the results were combined. Twelve valid assays for toxicity and nine for therapeutic potency were made by the prescribed methods, which are described in an annex to the article.

In terms of the second international sulfarsphenamine standard, the toxicity of the third international sulfarsphenamine standard is estimated to be 114%, with limits of error (P = 0.05) of 108% to 120%; the therapeutic potency is estimated to be 95%, with limits of error (P=0.05) of 89% to 101%.

Modification of the methods of assay recommended by the *Pharmacopoea Internationalis* (Ph.I.) may prove to be necessary when the new standard is established. If the stringency of the Ph.I. assays for toxicity and potency is to be maintained, certain adjustments in the recommended doses of the

[1] *Bull. World Hlth Org.* 1951, 4, 563 (Article in English with summary in English and French)

standard preparation will be necessary. The authors suggest that the dose of the standard preparation be 1.05 times that of the test preparation for the assay of toxicity, and 0.8 times that of the test preparation for the assay of potency.

AN EXPERIMENT IN EVALUATING ANOPHELES CONTROL

In an article in the *Bulletin of the World Health Organization*,[1] C. Garrett-Jones, WHO entomologist, describes an experiment undertaken in North Iran to trap mosquitos and thus to assess their control by residual DDT. Over 2,700 specimens of *A. maculipennis* were collected from ten outlet traps in the period from August to October 1950.

Sixteen villages were sprayed with DDT in several forms : 5% technical DDT powder in kerosene solution, 75% and 50% wettable powders in water suspension, and 50% " DDTane " wettable paste in water suspension. All these were applied to leave 2 g of DDT per m^2 of treated surface, except in two villages where the 75% powder-suspension was applied at a rate of only 1 g per m^2.

Following each type of treatment, a reduction in trap catches of between 76% and 91% was noted during the first five days. Over longer periods the catches continued to decline in all the traps, but it is not certain to what extent this might be attributed to a lowering of seasonal incidence. Noteworthy was the fact that the reduction in trap catches was confined almost entirely to the evening collections, morning collections being affected little, if at all. This indicated that, while specimens resting indoors by day were killed on the spot by the DDT, many more, having had no previous contact with the DDT, probably entered rooms at night and left again without experiencing lethal contact.

The experiment described by Mr. Garrett-Jones showed that it was possible to assess the effects on mosquitos of residual spraying by analysing the catches in outlet traps. The technique employed, one which appears to have been used but little in studying the *Anopheles maculipennis* complex, also yielded information about the endophilic habits of this mosquito in the locality studied.

[1] *Bull. World Hlth Org.* 1951, 4, 547 (Article in English with summary in English and French)

THE DEVELOPMENT OF PHARMACOPOEIAS

To mark the publication by WHO, on 30 October 1951, of volume I of the *Pharmacopoea Internationalis*,[1] Professor George Urdang, of the

[1] Published in separate English and French editions; Spanish edition in preparation. See *Chron. World Hlth Org.* 1951, 5, 255.

University of Wisconsin School of Pharmacy, prepared for the *Bulletin of the World Health Organization* an account of the origins, nature, and development of pharmacopoeias.[2] His review traces the history of pharmacopoeias from the first official application of the term, in 1573, to the *Pharmacopoeia Augustana*, a legally enforced pharmaceutical guide for the pharmacists and physicians of the City of Augsburg, to the recently published international pharmacopoeia. A table gives the years of publication of the first editions of 45 national pharmacopoeias.

Professor Urdang suggests the following general definition for a pharmacopoeia :

> " A pharmacopoeia, in the modern sense of the word, is a pharmaceutical standard intended to secure uniformity in the kind, quality, composition, and strength of remedies approved, or at least tolerated, by the representatives of medicine within a particular political unit and made obligatory for this unit, especially for its pharmacists, by the authorities concerned."

The compilation of the modern pharmacopoeia requires the co-operation of many different kinds of experts. A desire to extend such co-operation across national frontiers so as to obtain a universally recognized standard of drugs led to the convening, in 1865, of the first International Pharmaceutical Congress. In 1902 the first International Agreement for the Unification of the Formulae of Potent Drugs was drawn up; a second similar Agreement was completed in 1929. In 1937 the Health Organization of the League of Nations appointed a Technical Commission of Pharmacopoeial Experts to prepare a draft Agreement including general rules, tables of usual and maximal doses, and monographs on drugs common to a number of national pharmacopoeias. After the war, this work was taken over by the Interim Commission of the World Health Organization, which established an Expert Committee on the Unification of Pharmacopoeias to continue the task of the League's Technical Commission and to prepare the text of the first international pharmacopoeia.

[2] *Bull. World Hlth Org.* 1951, 4, 577 (Article in English with summary in English and French)

RETROLENTAL FIBROPLASIA IN PREMATURE INFANTS

A review of the literature on retrolental fibroplasia, an abnormal eye condition which occurs most commonly in premature infants, has been prepared by Dr. Ethel C. Dunham, WHO consultant on maternal and child health, and published in the *Bulletin of the World Health Organization.*[1]

[1] *Bull. World Hlth Org.* 1951, 4, 605 (Article in English with summary in English and French)

Clinical symptoms of retrolental fibroplasia are usually observed when the afflicted infant is between three and six months old. Both eyes are generally affected, and partial or complete blindness results. Ophthalmoscopic examination may reveal : a shallow anterior chamber; a greyish-white, opaque membrane behind the crystalline lens of both eyes; thin ciliary processes in front of the opaque tissue; a persistent hyaloid artery, retinal haemorrhage, and retinal separation. Retrolental fibroplasia of prematurity must be differentiated from a number of other conditions, most important of which are retinoblastoma and congenital cataract, both of which are usually apparent at birth and are usually unilateral.

The cause of retrolental fibroplasia has not been determined. Efforts at prevention have been unsuccessful, and the different types of therapy which have been tried—surgery, roentgen irradiation, drugs, and, most recently, ACTH—have not been encouraging.

WORLD DISTRIBUTION AND TREND OF CEREBROSPINAL MENINGITIS SINCE 1939

Since the last studies on the evolution of cerebrospinal meningitis throughout the world had appeared in 1938 and 1939, in the *Weekly Epidemiological Record* of the Health Organization of the League of Nations,[1] a recent article, by Dr. M. J. Freyche, Chief of WHO's Epidemiological Information Section, published in the *Epidemiological and Vital Statistics Report*,[2] fills quite a gap. Furthermore, the author does not confine himself to analysing and commenting on the statistical data furnished by a great number of countries during the last decade; he draws conclusions with regard to the epidemiological constants of the disease and makes an interesting contribution to the study of its periodicity.

Incidence on Various Continents

One fact emerges strikingly from the statistics : Africa remains the continent most affected by cerebrospinal meningitis. To give some idea of its incidence there, it is sufficient to note that the number of deaths in Nigeria in 1949 was about as high as the number of cases notified in the whole of Europe during the same year. It may be said that tropical Africa is the " favourite resort " of the disease. It seems that cerebrospinal meningitis has been established there for 20 to 30 years, showing a marked

[1] *Wkly Epidem. Rec. (L.o.N.)* 1938, **13**, 579 ; 1939, **14**, 119
[2] *Epidem. vital Statist. Rep.* 1951, **4**, 311

preference for the territories on the southern and northern borders of the great equatorial forest. In Egypt, after a few brief outbreaks during the preceding years, the infection became established in 1917 and has since been present in more or less serious epidemic form.

There have been three successive and increasingly serious outbreaks in Africa during the period under consideration—the first in 1939-40, the second in 1945-6, and the third, particularly serious, which began in 1948. As has already been observed, the countries most affected, with the exception of Egypt, are situated between the latitudes 5° N. and 15° N., i.e., in the region of the savannahs and sparse forests.

Some figures will suffice to illustrate the intensity of the recent epidemics. In Dahomey, the annual number of cases between 1940 and 1945 did not exceed 10. In 1948, the figure rose to 4,134 (649 deaths) and in 1949, to 6,730 (801 deaths); in 1950, it dropped to 2,046 (288 deaths). In the Anglo-Egyptian Sudan, the figures for the first half of 1951 were higher than those for the epidemic outbreaks over the preceding 11 years. It is a curious fact that in the province of Darfur, which is relatively sparsely populated (2.5 inhabitants per square kilometre), the highest number of cases was notified in relation to the size of the population.

In the other continents, morbidity is much lower than in Africa. For example, in the USA 1,665 cases were notified in 1940 and 18,221 in 1943, a highly epidemic year; in 1950 the figure dropped to 3,699.

Although no figures are available for some important areas of Asia for certain years, it is possible to state that cerebrospinal meningitis is not very frequent on this continent. However, slight outbreaks were notified in 1939 in Cyprus, in 1940 in Indochina, and in 1944 in China.

Since 1947, the average number of cases notified annually for all the European countries concerning which statistics are available has not exceeded an average of about 10,000. The incidence of the disease is diminishing from year to year in the Federal Republic of Germany, Finland, France, Italy, the Netherlands, Spain, Sweden, Switzerland, and Turkey. In 1950, outbreaks occurred in England and Wales and in Norway; there was an epidemic in Greece; and incidence remained high in Yugoslavia.

The morbidity-rate during the period 1941-4 was high in Australia and New Zealand, where the total number of cases reached 5,849 (855 deaths) and 1,584 (224 deaths), respectively.

Periodicity of the Disease

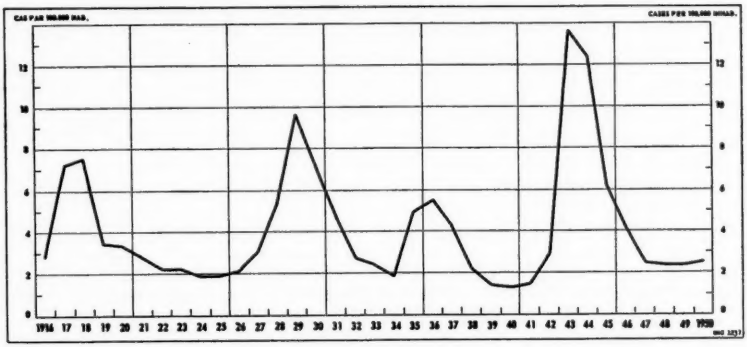
Morbidity

As is clearly shown by the statistics from countries in which registration of cases has been the rule for many years, incidence of cerebrospinal meningitis is periodically high. Thus, in the USA, " peaks " were observed in 1905, 1912, 1917-8, 1929, 1935-6, and 1943-4 (fig. 6). In Denmark, as

in the USA, the interval is about eight years, with variations up to twelve years. The curve cannot be considered as a regular sinusoid; it rises fairly rapidly in two to four years and then drops more slowly.

The disease proceeds by regular seasonal waves, reaching the annual maximum in March or April (sometimes February or May) and the minimum between June and November in the countries of the Northern hemisphere. In the Southern hemisphere, on the other hand, this seasonal

FIG. 8. CEREBROSPINAL MENINGITIS MORBIDITY-RATES IN USA, 1916-1950*



* Rates based on a varying number of States (22 to 37 before 1926, 40 from 1926 to 1938, 48 since 1939)

movement is inverted, as may be seen from the curve referring to the Union of South Africa (fig. 8). On the Equator, in countries like Uganda, the seasonal variations are hardly noticeable.

No satisfactory explanation has yet been found for these two forms of periodicity. Some attempt has been made to explain the seasonal alternations in hot climates as being due to local factors such as sand winds and the displacement of populations with the return of the dry seasons. But comparison of the 1949-51 periodicity curve for Africa with those for the European and American countries of the Northern hemisphere is sufficient to show that there is an undeniable seasonal variation which holds true for both groups of countries and which, therefore, is independent of local conditions.

It seemed of interest to inquire whether the cyclical variation had been affected during the course of the past decade by mobilization and population movements, which, as was already known, are important factors in the propagation of infection. It appears, in fact, that in some countries mobilization measures did bring about an increase in incidence of the disease. In France, for example, a hyperendemic outbreak coincided with the 1944

FIG. 7. SEASONAL DISTRIBUTION OF CEREBROSPINAL CASES IN AFRICA*

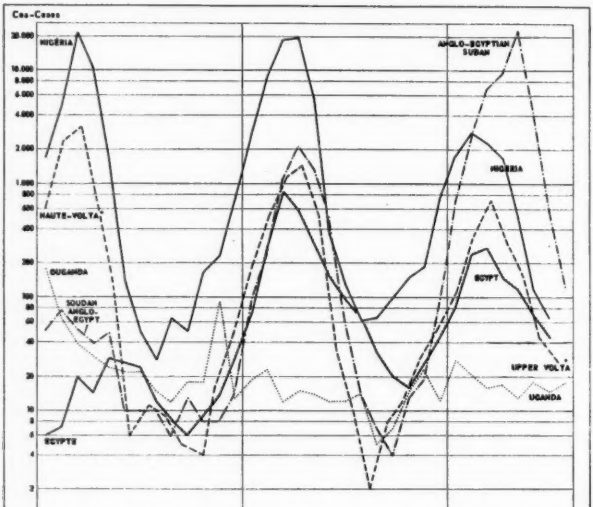
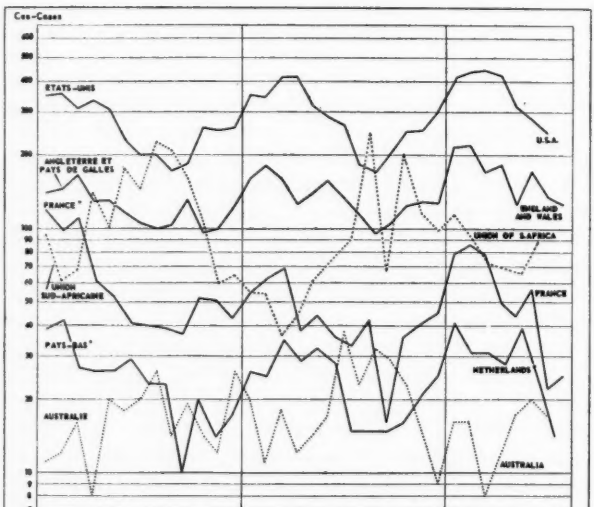


FIG. 8. SEASONAL DISTRIBUTION OF CEREBROSPINAL MENINGITIS CASES IN VARIOUS COUNTRIES*



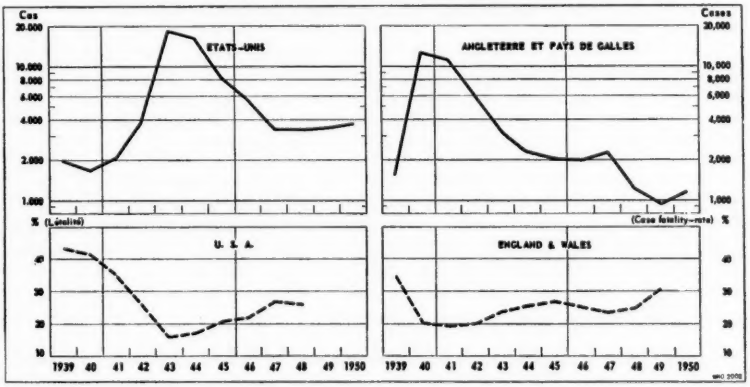
* Monthly figures

and 1945 military operations. Similar observations appear to confirm that mobilization and war may intensify the extent of an outbreak when it occurs within the natural periodicity limits.

Case fatality-rate

Data concerning the case fatality-rate—i.e., percentage of deaths in relation to the number of cases notified—in 18 countries and territories for the period 1939-50 are quite varied. At first glance it would seem impossible to make any comparison between them on an international

FIG. 9. VARIATION IN CEREBROSPINAL MENINGITIS INCIDENCE AND CASE FATALITY-RATE IN USA AND IN ENGLAND AND WALES



scale. However, we know that the " statistical mortality-rate " in a given country often varies in inverse ratio to the seasonal incidence of the disease.

The author asked himself whether there might be a periodic or cyclical movement of case mortality in inverse ratio to morbidity. Some previously observed facts first of all suggested that this hypothesis might be well founded. In New York State, during the epidemic years (1928-9, 1936-7), the case fatality-rate was 50%; it reached 80% in the " interepidemic " years (1925-6 and 1933-4). The curves shown in fig. 9 demonstrate the evolution of morbidity and of case fatality-rate from 1939 to 1950 in the USA and in England and Wales and show very clearly that the years of high incidence were the years of low case fatality-rate, and that the case fatality-rate has increased since 1943 in the USA and since 1940-1 in England, in spite of the general application of new therapeutic methods. For this periodicity of case fatality-rate in inverse ratio to the morbidity-rate, as well as for the seasonal periodicity, no explanation has yet been found.

Reports from WHO Fellows

Many of the letters and reports received from WHO Fellows are of such interest that they deserve to be read by a wider public. They demonstrate more vividly than a series of facts and figures both the character of the fellowship programme and the response of the Fellows themselves. Selections from these reports are therefore published from time to time, but it must be emphasized that the opinions expressed are those of the Fellows.

Rheumatic Diseases in the USA

Dr. J. J. R. Duthie, Senior Lecturer in Rheumatic Diseases at the Department of Medicine, Edinburgh University, Scotland, was granted a three-month travelling fellowship to visit centres concerned with rheumatic diseases in the USA. A summary of some of Dr. Duthie's observations follows.

A survey made in 1949 in the USA by a committee of the National Research Council revealed that rheumatic diseases constitute a major social and economic problem, that they are, in fact, the most common cause of chronic illness. It was estimated that some 7,500,000 Americans suffer from arthritis or some other form of rheumatism, and that the yearly cost of medical care for these cases is about $100,000,000.

Clinics and hospital facilities for rheumatic diseases

In 1949 there were only 65 specially endowed beds for arthritic patients in the USA, as compared with 100,000 free beds for patients suffering from tuberculosis. Dr. Duthie found little evidence that this number of beds for patients with rheumatic diseases has increased to any considerable extent. While most of the hospitals which he visited have arthritis clinics, staffed by physicians especially interested in rheumatic diseases, few beds are available for patients needing hospital care. When such patients are admitted to the hospital, they are usually consigned to a general medical ward and become the responsibility of the visiting ward physician, though the treatment given may be prescribed by the physician in charge of the clinic for rheumatic diseases.

In a number of teaching hospitals, State grants make it possible for selected patients to be admitted for long-term study and treatment; for example, there are 20 beds thus endowed at the Massachusetts General Hospital in Boston, Massachusetts. At the Robert Breck Brigham Hospital, also in Boston, there are 30 beds available for rheumatic patients, and very complete service for these patients is provided, including orthopaedic and surgical care. This seems, however, to be a rare institution and is, perhaps, the only one of its kind in the USA.

Important aid in the study and treatment of rheumatic diseases is being given through the Arthritis and Rheumatism Foundation, which was incorporated in 1948 to (1) formulate and carry out a national programme of research and education in the rheumatic diseases, in order to discover the causes and to develop methods of prevention; (2) promote more effective methods of diagnosis for sufferers and more facilities for treatment and for training physicians in rheumatic diseases; and (3) provide systematic re-training and rehabilitation for those disabled by rheumatic diseases. By 1950, 18 Chapters of the

Foundation had been established throughout the nation and appeals for funds successfully launched. Particular progress has been realized in New England, where a programme has been organized which includes lectures, clinical demonstrations, and distribution of scientific literature to physicians; fellowships for doctors in remote districts to pursue special studies at teaching centres for from three months to a year; financial support and professional service to arthritis clinics in rural districts; and aid for patients in obtaining admission to hospitals.

In comparing facilities for patients suffering from rheumatic diseases in Great Britain and in the USA, Dr. Duthie felt that the development of a limited number of special units in connexion with teaching hospitals and universities, such as is now taking place in Great Britain, would be desirable in the USA.

ACTH and cortisone in the treatment of rheumatic diseases

Dr. Duthie found that accumulated experience in the use of ACTH and cortisone in rheumatoid arthritis during the last two years in the USA has led physicians to adopt a much more conservative attitude towards the routine administration of these hormones than was the case when they were first introduced. It has been discovered that in only about one-third of the patients who have started this treatment can a useful suppressive effect be maintained at a dose level which causes no undue disturbance. No longer are ACTH and cortisone regarded as substitutes for other forms of treatment.

Research

Dr. Duthie was impressed by the research facilities in the USA and by the fundamental and clinical studies on rheumatic diseases which are in progress. In his report he summarizes some of the research projects which he visited or reviewed, specifically those concerning (1) the mode of action of the adrenal steroids in rheumatic diseases, (2) pleuro-pneumonia-like organisms in the collagen diseases, (3) blood-flow in joints, (4) pathogenesis of gout, and (5) chemical structure of fibrinoid. He felt that in the USA, as elsewhere, there is a need for the clinician to play a more important role in the research team.

Evaluation of tour

The information which Dr. Duthie gained in his study-tour will, he believes, be invaluable to him in his future work, particularly in the clinical trials of ACTH and cortisone which are being conducted in his unit under the auspices of the British Medical Research Council and the Nuffield Foundation. He feels that the sort of international exchange of knowledge which is afforded by WHO fellowships can have far-reaching effects, for, as he writes : " Personal contact and discussion are of immeasurable benefit in clarifying ideas, establishing friendly relationships, and furthering mutual interest in common problems. . . . International congresses are no real substitute for the more intimate discussions in the informal atmosphere of the hospital lounge, cafeteria, or laboratory. Contacts made in these circumstances are much more likely to be maintained, with mutual benefit. The greater understanding of common problems both in the scientific sphere and in the wider field of international relationships must surely be of value in these unsettled times."

Notes and News

International Symposium on Yaws Control

Announcement has been made of an International Symposium on Yaws Control which is to be held in Bangkok, Thailand. from 14 to 30 March 1952, under the auspices of WHO, in collaboration with the Government of Thailand. During the week following the symposium, a field demonstration and training seminar will be conducted, utilizing the facilities of the WHO yaws-control team which is working in Thailand. All persons interested in the control of this disease are invited to attend the symposium and the seminar.

The programme will include papers and panel discussions on all phases of modern yaws control. Copies of the programme for the symposium will be available about 1 February 1952 and should be requested from the Venereal Disease Section, WHO, Palais des Nations, Geneva.

Expert Committee Member Killed in Aeroplane Crash

Dr. K. Subrahmanyan, member of the WHO Expert Committee on Cholera, was killed, in late November, in an aeroplane crash between New Delhi and Calcutta as he was returning from a session of the committee. Arrangements had been made for Dr. Subrahmanyan, who was Professor of Sanitary Engineering and Head of the Department of Sanitary Engineering at the All-India Institute of Hygiene and Public Health, to join the staff of the WHO Regional Office for South-East Asia as its first environmental-sanitation adviser.

Fig. 10. DR. K. SUBRAHMANYAN

Dr. Subrahmanyan made a real contribution to the solution of the problem of preventing cholera in overpopulated rural areas where pure water and proper sanitation do not exist. He proposed that, instead of giving up hope of controlling cholera in such areas because of lack of funds for adequate sanitation schemes, efforts should be concentrated on obtaining immediate results by promoting simplified sanitation methods within the means available.

Studies along this line are under consideration by WHO, and attempts will be made to implement Dr. Subrahmanyan's ideas.

New Senior Adviser for BCG Programme in Egypt

A new senior adviser has been appointed to the BCG-vaccination programme which is being assisted by WHO/UNICEF in Egypt. Dr. K. Østerskov-Jensen, of Denmark, is replacing Dr. E. Roelsgaard, who has left to take a similar position in Pakistan. Dr. Østerskov-Jensen has had considerable experience in BCG-vaccination work, having been engaged in tuberculosis-control programmes in Austria and Germany before going to Egypt.

The BCG-vaccination programme in Egypt was initiated in 1949 with the assistance of the Joint Enterprise, and this assistance has been continued by WHO/UNICEF since 1 July 1951. About 13 Egyptian teams, plus international personnel, are taking part in the programme. By 31 December 1951, more than 2,500,000 persons had been given a tuberculin-test and more than 800,000 had been vaccinated with BCG.

Joint Enterprise and WHO/UNICEF assistance has also been given in establishing a BCG-vaccine-production centre at the Agouza Serum Institute, near Cairo. This centre received WHO approval on 15 November 1951, and will thus be able to supply vaccine not only to Egypt but also to other countries.

Biochemical Technician Sent to Indonesia

In an effort to combat malnutrition in Indonesia, WHO and FAO, under the technical assistance programme, have undertaken a project which will aid the Indonesian Government in studying diet deficiencies and organizing school-feeding and nutrition-education programmes. Miss M. A. Drost, of the Netherlands, has been sent to the Eijkman Institute, Djarkarta, where, as biochemical technician, she will assist in the analysis of foodstuffs and of biological material collected for the assessment of nutritional status. Miss Drost's assignment is expected to be of two years' duration.

Public-Health Adviser Appointed for Iran

Dr. H. L. Larsen, of Copenhagen, Denmark, has been sent by WHO to Iran to serve as public-health adviser to the Iranian Ministry of Health. Dr. Larsen, in addition to being an expert on public health, is a specialist in tropical medicine, with 26 years' experience in the Far East. He was formerly Chief Medical Officer of the League of Red Cross Societies for the Palestine refugees. His present assignment is part of a project for the development of the public-health services of Iran which is being undertaken with WHO technical assistance.

Dr. M. G. Candau to Leave WHO Headquarters

Dr. Brock Chisholm, Director-General of WHO, has announced that Dr. M. G. Candau, Assistant Director-General in charge of the Department of Advisory Services, will leave WHO Headquarters upon expiration of his contract. In March 1952, Dr. Candau will assume the post of Assistant Director of the Pan American Sanitary Bureau, which serves as WHO Regional Office for the Americas.

Dr. Candau has been at WHO Headquarters for two years; he was named Assistant Director-General in the spring of 1951.[1] In expressing his regret at losing Dr. Candau as a close collaborator, Dr. Chisholm praised, in particular, Dr. Candau's invaluable assistance in promoting fundamental public-health services and in developing WHO's programme of technical assistance to economically underdeveloped areas.

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[1] *Chron. World Hlth Org.* 1951, **5**, 139

WHO Veterinary Consultants on Missions

India, Iraq, the Hashemite Kingdom of the Jordan, Lebanon, Northern and Southern Rhodesia, Syria, and perhaps Ceylon have been, or will be, visited by Dr. E. S. Tierkel, WHO consultant on rabies. Dr. Tierkel, who is primarily concerned with the production and testing of rabies vaccines and with the field control of the disease in dogs and wild animals, will give advice to the governments of these countries on rabies-control problems. Dr. Tierkel has been lent to WHO by the US Public Health Service, for which he directs rabies-control activities at the Communicable Disease Center, Savannah, Ga. He acted as a WHO consultant for three months in 1951 and will possibly undertake WHO assignments for an equal period during 1952. In addition to carrying out field missions, Dr. Tierkel is laying the groundwork for a training course in rabies control for the Eastern Mediterranean Region which is scheduled to be given in Iran in 1952.

Another veterinary consultant, Dr. H. Thornton, has, under the auspices of WHO and FAO, surveyed and given advice on meat hygiene practices in Greece and Italy, and is expected to undertake similar missions in Iran, Iraq, Israel, Turkey, and several countries in Latin America. The Israeli Ministries of Health and Agriculture have requested that Dr. Thornton spend three weeks in Israel to advise them on meat inspection and to give a series of lectures to veterinarians. Dr. Thornton, a well-known authority on meat inspection, is Chief Veterinary Officer of the City and County of Newcastle-on-Tyne. His services have been made available to FAO and WHO for ten months.

Training Course in Insect Control Postponed

The training course in insect control which was to have begun in Rio de Janeiro in late October [1] has been indefinitely postponed.

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[1] *Chron. World Hlth Org.* 1951, **5**, 308